

CLAIMS

1. A cDNA library in which sense strand cDNAs are immobilized at the 5'-side.

5 2. The cDNA library of claim 1, wherein a common nucleotide sequence to cDNAs constituting the library is present at the 5'-terminal of sense strand cDNAs.

10 3. The cDNA library of claim 2, wherein the common nucleotide sequence is the sense sequence of a promoter specifically recognized by an RNA polymerase.

4. The cDNA library of claim 2, wherein the common nucleotide sequence encodes an arbitrary amino acid sequence and wherein the nucleotide sequence constitutes the same reading frame as the cDNAs.

15 5. The cDNA library of claim 1, wherein the sense strand cDNAs comprise a translation initiation codon.

6. The cDNA library of claim 5, wherein the translation initiation codon is derived from an mRNA.

20 7. A method for synthesizing a cDNA, wherein a known nucleotide sequence is artificially added to the 3'-terminal of a first strand cDNA and wherein an oligonucleotide used as a primer for synthesizing a second strand binds to a solid phase at the 5'-side, the method comprising:

25 a) synthesizing the first strand cDNA using an mRNA as a template with a primer for synthesizing the first strand cDNA, and

b) synthesizing a sense strand cDNA using, as a primer for synthesizing the second strand, an oligonucleotide comprising a sequence complementary to the 3'-side of the first strand cDNA produced in a).

30 8. The method of claim 7, wherein the known nucleotide sequence is added to the 3'-terminal of the first strand cDNA by:

a) binding an oligonucleotide comprising a known sequence to the 5'-terminal of an mRNA, and

b) synthesizing the first strand cDNA using the mRNA of a) as a template with a primer for synthesizing the first strand.

35 9. The method of claim 8, wherein the oligonucleotide is bound in a) above by a method in which a CAP structure present at the 5'-terminal

of the mRNA is specifically recognized.

Subj 1
10. A sense strand cDNA immobilized at the 5'-side, the sense strand cDNA which can be obtained by the method of any one of claims 7 to 9.

Subj 2
5 11. A method for synthesizing a cDNA library by the method of any one of claims 7 to 9 using an mRNA as a starting material.

12. A cDNA library in which sense strand cDNAs are immobilized at the 5'-side, the cDNA library which can be obtained by the method of claim 11.

10 13. A cDNA library comprising full-length cDNAs, the cDNA library which can be obtained by the method of claim 9 using an mRNA as a starting material.

Subj 3
14. A secondary cDNA library which can be obtained by amplifying the cDNA library of claim 12 or 13.

15 15. A method for obtaining an mRNA library, the method comprising synthesizing RNAs using the cDNA library of claim 3 as a template with a DNA-dependent RNA polymerase recognizing the promoter of claim 3.

20 16. An mRNA library which can be obtained by the method of claim 15.

17. A method for preparing a protein library, the method comprising translating the mRNA library of claim 16 into proteins with an expression system.

25 18. A protein library which can be obtained by the method of claim 17.

Subj 4
19. A method for subtracting cDNAs, the method comprising:
a) synthesizing cDNAs used as testers,
b) hybridizing the cDNA using the sense strand cDNA library of any one of claims 1, 12, and 13 as a driver, and
30 c) selecting cDNAs which have or have not hybridized in b).